

Dell EMC PowerEdge C4140

Technical Specifications

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

© 2017 - 2018 Dell Inc. or its subsidiaries. All rights reserved. Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be trademarks of their respective owners.

Contents

1 Dell EMC PowerEdge C4140 system overview.....	4
2 Technical specifications.....	5
Chassis dimensions.....	6
System weight.....	6
GPU specifications.....	6
Processor specifications.....	7
Supported operating systems.....	7
PSU specifications.....	7
Cooling fans specifications.....	7
System battery specifications.....	8
Expansion bus specifications.....	8
Memory specifications.....	8
Storage specifications.....	8
Drive specifications.....	8
Ports and connectors specifications.....	9
USB ports.....	9
NIC ports.....	9
Serial port.....	10
VGA ports.....	10
Video specifications.....	10
Environmental specifications.....	10
Standard operating temperature.....	11
Maximum recommended ambient operating temperature.....	12
Particulate and gaseous contamination specifications.....	13
3 Documentation resources.....	15
4 Getting help.....	17
Contacting Dell EMC.....	17
Documentation feedback.....	17
Accessing system information by using QRL.....	17
Quick Resource Locator for C4140.....	18
Receiving automated support with SupportAssist	18
Recycling or End-of-Life service information.....	18

Dell EMC PowerEdge C4140 system overview

The Dell EMC PowerEdge C4140 system is a 1U, dual socket rack system supports up to:

- Two Intel Xeon Scalable processors
- Twenty four DIMM slots
- Storage capacity of four Graphical Processing Units
- Two power supply units (PSUs)
- Optional two 2.5-inch cabled SATA SSDs installed only in PSU 2 bay

Table 1. C4140 system options

System Options	Configurations
Configuration B	2CPUs w/ 4GPUs, (1) x16 GPU PCIe, (2) x16 LP AIC PCIe
Configuration C	2CPUs w/ 4GPUs, (4) x16 GPU PCIe, (2) x16 LP AIC PCIe
Configuration G	2CPUs w/ 4GPUs, (1) x16 GPU PCIe, (2) x16 LP AIC PCIe
Configuration K	2CPUs w/ 4GPUs NVLINK2, (1) x16 GPU PCIe, (2) x16 LP AIC PCIe
Configuration M	2CPUs w/ 4GPUs NVLINK2, (4) x16 GPU PCIe, (2) x16 LP AIC PCIe

Technical specifications

The technical and environmental specifications of your system are outlined in this section.

Topics:

- Chassis dimensions
- System weight
- GPU specifications
- Processor specifications
- Supported operating systems
- PSU specifications
- Cooling fans specifications
- System battery specifications
- Expansion bus specifications
- Memory specifications
- Storage specifications
- Drive specifications
- Ports and connectors specifications
- Video specifications
- Environmental specifications

Chassis dimensions

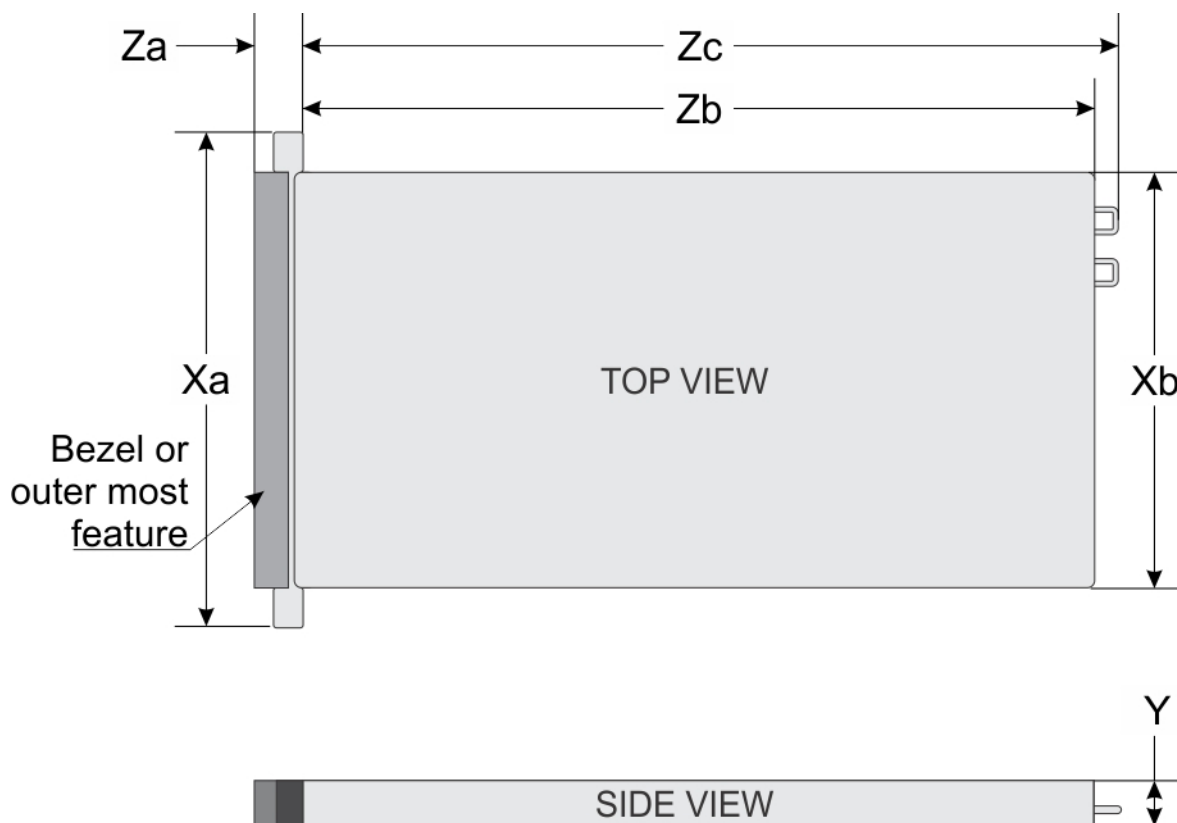


Figure 1. Details the dimensions of PowerEdge C4140 system

Table 2. The dimensions of PowerEdge C4140 system

Xa	Xb	Y	Za with bezel	Za without bezel	Zb*	Zc
482.4 mm (18.99 inches)	434 mm (17.08 inches)	43.1 mm (1.69 inches)	18.0 mm (0.70 inches)	18.0 mm (0.70 inches)	886.4 mm (34.89 inches)	923.8 mm (36.37 inches)

* - Zb goes to the nominal rear wall external surface where the system board I/O connectors are located.

System weight

Table 3. System weight

System	Maximum weight
PowerEdge C4140 (with PCIe GPUs)	22.1 kg (48.72 lb)
PowerEdge C4140 (with SXM2 GPUs)	24 kg (52.91 lb)

GPU specifications

The Dell EMC PowerEdge C4140 supports up to 4 double wide GPUs, with 300 W each in either PCIe or SXM2 form factor. The following GPUs are supported:

- NVIDIA Tesla P40
- NVIDIA Tesla P100 12 GB PCIe
- NVIDIA Tesla P100 16 GB PCIe and NVLink
- NVIDIA Tesla V100 16 GB PCIe and NVLink
- NVIDIA Tesla V100 32GB PCIe and NVLINK

NOTE: The P100 and V100 GPUs must have PSU of one 2400 W only.

Processor specifications

The PowerEdge C4140 system supports two Intel Xeon Scalable processors with up to 20 cores per processor.

NOTE: Ensure that both the processors are populated and both are of same type or model.

Supported operating systems

The Dell EMC PowerEdge C4140 supports the following operating systems:

- Canonical Ubuntu LTS
- Microsoft Windows Server
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server

NOTE: For more information on the specific versions and additions, go to <https://www.dell.com/support/home/us/en/04/Drivers/SupportedOS/poweredge-c4140>

PSU specifications

The Dell EMC PowerEdge C4140 system supports the following AC power supply units (PSU):

Table 4. PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	AC		Current
					High line 100–240 V	Low line 100–120 V	
2400 W AC	Platinum	9000 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2400 W	NA	16 A
2000 W AC	Platinum	7500 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2000 W	NA	11.5 A

NOTE:

- Heat dissipation is calculated using the PSU wattage rating.
- This system is also designed to connect to the IT power systems with a phase-to-phase voltage not exceeding 240 V.

Cooling fans specifications

The Dell EMC PowerEdge C4140 system supports up to eight standard cooling fans.

NOTE: When selecting or upgrading the system configuration, to ensure optimum power utilization, verify the system power consumption with the Dell Energy Smart Solution Advisor available at [Dell.com/ESSA](https://www.dell.com/ESSA).

Table 5. Dell EMC PowerEdge C4140 fan support matrix

Processor count	Fan 1	Fan 2	Fan 3	Fan 4	Fan 5	Fan 6	Fan 7	Fan 8
2	Required	Required	Required	Required	Required	Required	Required	Required

NOTE: Each fan is listed in the systems management software, referenced by the respective fan number. If there is a problem with a particular fan, you can easily identify and replace the proper fan by noting the fan numbers on the cooling fan assembly.

System battery specifications

The PowerEdge C4140 system supports CR 2032 lithium coin cell system battery.

Expansion bus specifications

The PowerEdge C4140 system supports PCI express (PCIe) generation 3 expansion cards, which are installed on the system, using expansion card risers. This system supports two risers, riser 1A and riser 2A.

Memory specifications

Table 6. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Dual processors	
			Minimum RAM	Maximum RAM
LRDIMM	Quad rank	64 GB	128 GB	1536 GB
RDIMM	Dual rank	32 GB	64 GB	768 GB
RDIMM	Dual rank	16 GB	32 GB	384 GB
RDIMM	Single rank	8 GB	16 GB	192 GB

NOTE:

- Ensure that all the memory slots are populated either with DIMMs or DIMM blanks.
- It is recommended to have all DIMMs of same type.

Storage specifications

The PowerEdge C4140 system supports:

- one BOSS PCIe card with M.2 SATA SSDs
- Up to two NVMe/PCIe SSDs as internal storage
- Up to 2 NVMe add-in cards in slots 1 and 3,
- Two SATA SSDs by using the optional SATA drive cage
- S140

NOTE: The M.2 boot drives have to be of the same capacity and set in a mirrored RAID-1 configuration.

Drive specifications

The Dell EMC PowerEdge C4140 system supports optional two 2.5-inch cabled SATA SSDs is installed only in PSU 2 bay.

NOTE: Initial status LED of PCIe SSDs may vary based on the actual drive status and server components populated.

CAUTION: Do not power off or reboot your system while the drive is being formatted. Doing so can cause a drive failure.



Figure 2. 2.5-inch SATA SSDs

1 HDD1

2 HDD0

Ports and connectors specifications

USB ports

The PowerEdge C4140 system supports:

- Two USB 3.0-compliant ports on the back panel
- One internal USB 3.0-compliant port

NIC ports

The PowerEdge C4140 system supports four Network Interface Controller (NIC) ports on the back panel, which are available in the following configurations:

- Four RJ-45 ports that support 10, 100 and 1000 Mbps
- Four RJ-45 ports that support 100 M, 1 G and 10 Gbps
- Four RJ-45 ports, where two ports support maximum of 10 G and the other two ports maximum of 1 Gbps
- Two RJ-45 ports that support up to 1 Gbps and 2 SFP+ ports that support up to 10 Gbps
- Four SFP+ ports that support up to 10 Gbps
- Two SFP28 ports that support up to 25 Gbps

NOTE: You can install up to three PCIe add-on NIC cards.

Serial port

The PowerEdge C4140 system supports one serial port on the rear view. This port is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display. The PowerEdge C4140 system supports one 15-pin VGA port on the back of system.

Video specifications

The PowerEdge C4140 system supports an integrated VGA controller.

Table 7. Supported video resolution options

Resolution	Refresh rate (Hz)	Color depth (bit)
640 X 480	60, 70	8, 16, 32
800 X 600	60, 75, 85	8, 16, 32
1024 X 768	60, 75, 85	8, 16, 32
1152 X 864	60, 75, 85	8, 16, 32
1280 X 1024	60, 75	8, 16, 32
1440 X 900	60	8, 16, 32
1920 x 1200	60	8, 16, 32

Environmental specifications

NOTE: For additional information about environmental measurements for specific system configurations, see Dell.com/environmental_datasheets.

Table 8. Temperature specifications

Temperature	Specifications
Storage	-40°C to 65°C (-40°F to 149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 30°C (50°F to 86°F) with no direct sunlight on the equipment. NOTE: Certain system hardware configurations may require operating temperatures to be less than 25°C. For more information, see the Ambient temperature limitations section.
Fresh air	For information about fresh air, see Expanded Operating Temperature section.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

Table 9. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.
Operating	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point.

Table 10. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 G _{rms} at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 G _{rms} at 10 Hz to 500 Hz for 15 min (all six sides tested).

Table 11. Maximum shock specifications

Maximum shock	Specifications
Operating	Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 6 G for up to 11 ms.
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms.

Table 12. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

Table 13. Operating temperature de-rating specifications

Operating temperature de-rating	Specifications
Up to 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 m (3,117 ft).
35°C to 40°C (95°F to 104°F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 m (3,117 ft).
40°C to 45°C (104°F to 113°F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 m (3,117 ft).

Standard operating temperature

Table 14. Standard operating temperature specifications

Standard operating temperature	Specifications
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 30°C (50°F to 86°F) with no direct sunlight on the equipment.

Maximum recommended ambient operating temperature

Table 15. Configuration B

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	21	21	20	19	19	18	17	15
300 W	23	23	22	21	21	20	19	17
275 W	25	25	24	23	23	22	21	19
250 W	27	26	26	25	25	24	23	22
225 W	29	28	28	27	27	26	25	24
200 W	30	30	30	30	29	28	27	26

Table 16. Configuration C

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	24	23	22	21	20	20	19	17
300 W	28	26	24	23	23	23	22	20
275 W	28	27	26	25	25	24	23	21
250 W	30	29	28	27	26	26	25	23
225 W	30	30	30	29	28	28	28	26
200 W	30	30	30	30	30	30	30	28

Table 17. Configuration G

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	23	22	20	19	18	18	18	17
300 W	25	24	22	21	21	20	19	18
275 W	27	26	23	23	23	22	21	20
250 W	28	27	25	25	25	24	23	22
225 W	30	29	27	27	27	26	25	24
200 W	30	30	29	29	29	28	27	26

Table 18. Configuration K

CPU Power Dissipation / NVLink SXM2	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
300W	25	24	22	21	20	19	18	18

Table 19. Configuration M

CPU Power Dissipation / NVLink SXM2	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
300W	24	24	23	23	22	22	20	20

Particulate and gaseous contamination specifications

The following table defines the limitations that help avoid any equipment damage or failure from particulate and gaseous contamination. If the levels of particulate or gaseous pollution exceed the specified limitations and result in equipment damage or failure, you may need to rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

Table 20. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	<p>Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.</p> <p>NOTE: This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.</p> <p>NOTE: Air entering the data center must have the MERV11 or MERV13 filtration.</p>
Conductive dust	<p>Air must be free of conductive dust, zinc whiskers, or other conductive particles.</p> <p>NOTE: This condition applies to data center and non-data center environments.</p>
Corrosive dust	<ul style="list-style-type: none"> Air must be free of corrosive dust. Residual dust present in the air must have a deliquescent point less than 60% relative humidity. <p>NOTE: This condition applies to data center and non-data center environments.</p>

Table 21. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-1985.
Silver coupon corrosion rate	<200 Å/month as defined by AHSRAE TC9.9.

 **NOTE:** Maximum corrosive contaminant levels measured at $\leq 50\%$ relative humidity.

Documentation resources

This section provides information about the documentation resources for your system.

To view the document that is listed in the documentation resources table:

- From the Dell EMC support site:
 - a Click the documentation link that is provided in the Location column in the table.
 - b Click the required product or product version.

i | NOTE: To locate the product name and model, see the front of your system.

 - c On the Product Support page, click **Manuals & documents**.
- Using search engines:
 - Type the name and version of the document in the search box.

Table 22. Additional documentation resources for your system

Task	Document	Location
Setting up your system	For more information about installing and securing the system into a rack, see the Rail Installation Guide included with your rack solution. For information about setting up your system, see the <i>Getting Started Guide</i> document that is shipped with your system.	Dell.com/poweredgemanuals
Configuring your system	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your system remotely, see the Integrated Dell Remote Access Controller User's Guide. For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM CLI Guide for iDRAC. For information about Redfish and its protocol, supported schema, and Redfish Eventing implemented in iDRAC, see the Redfish API Guide. For information about iDRAC property database group and object descriptions, see the Attribute Registry Guide.	Dell.com/poweredgemanuals
	For information about earlier versions of the iDRAC documents. To identify the version of iDRAC available on your system, on the iDRAC web interface, click ? > About .	Dell.com/idracmanuals
	For information about installing the operating system, see the operating system documentation.	Dell.com/operatingsystemmanuals

Task	Document	Location
	For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document.	Dell.com/support/drivers
Managing your system	For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	Dell.com/poweredgemanuals
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	Dell.com/openmanagemanuals > OpenManage Server Administrator
	For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide.	Dell.com/openmanagemanuals > OpenManage Essentials
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	Dell.com/serviceabilitytools
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	Dell.com/openmanagemanuals
Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation.	Dell.com/storagecontrollermanuals
Understanding event and error messages	For information about the event and error messages generated by the system firmware and agents that monitor system components, see the Error Code Lookup.	Dell.com/qrl
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	Dell.com/poweredgemanuals

Getting help

Topics:

- [Contacting Dell EMC](#)
- [Documentation feedback](#)
- [Accessing system information by using QRL](#)
- [Receiving automated support with SupportAssist](#)
- [Recycling or End-of-Life service information](#)

Contacting Dell EMC

Dell EMC provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell EMC product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell EMC for sales, technical assistance, or customer service issues:

- 1 Go to Dell.com/support/home.
- 2 Select your country from the drop-down menu on the lower right corner of the page.
- 3 For customized support:
 - a Enter your system Service Tag in the **Enter your Service Tag** field.
 - b Click **Submit**.The support page that lists the various support categories is displayed.
- 4 For general support:
 - a Select your product category.
 - b Select your product segment.
 - c Select your product.The support page that lists the various support categories is displayed.
- 5 For contact details of Dell EMC Global Technical Support:
 - a Click [Global Technical Support](#).
 - b The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell EMC Global Technical Support team.

Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) located on the information tag in the front of the C4140, to access the information about the Dell EMC PowerEdge C4140.

Prerequisites

Ensure that your smartphone or tablet has the QR code scanner installed.

The QRL includes the following information about your system:

- How-to videos
- Reference materials, including the Installation and Service Manual, LCD diagnostics, and mechanical overview
- Your system service tag to quickly access your specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance and sales teams

Steps

- 1 Go to Dell.com/qrl and navigate to your specific product or
- 2 Use your smartphone or tablet to scan the model-specific Quick Resource (QR) code on your system or in the Quick Resource Locator section.

Quick Resource Locator for C4140



Figure 3. Quick Resource Locator for PowerEdge C4140

Receiving automated support with SupportAssist

Dell EMC SupportAssist is an optional Dell EMC Services offering that automates technical support for your Dell EMC server, storage, and networking devices. By installing and setting up a SupportAssist application in your IT environment, you can receive the following benefits:

- **Automated issue detection** — SupportAssist monitors your Dell EMC devices and automatically detects hardware issues, both proactively and predictively.
- **Automated case creation** — When an issue is detected, SupportAssist automatically opens a support case with Dell EMC Technical Support.
- **Automated diagnostic collection** — SupportAssist automatically collects system state information from your devices and uploads it securely to Dell EMC. This information is used by Dell EMC Technical Support to troubleshoot the issue.
- **Proactive contact** — A Dell EMC Technical Support agent contacts you about the support case and helps you resolve the issue.

The available benefits vary depending on the Dell EMC Service entitlement purchased for your device. For more information about SupportAssist, go to Dell.com/supportassist.

Recycling or End-of-Life service information

Take back and recycling services are offered for this product in certain countries. If you want to dispose of system components, visit Dell.com/recyclingworldwide and select the relevant country.